

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of )  
**Barnes et. al.** )  
Serial No.: 10/705,312 ) PATENT PENDING  
Filed: November 10, 2003 ) Examiner: Timothy A. Musselman  
For: **Training Method and Device For Teaching** ) Group Art Unit: 3714  
**a Trainee to Remain within a Safety Zone** ) Confirmation No.: 4460  
Docket No: 5198-001 )

Mail Stop Amendment  
Commissioner for Patents  
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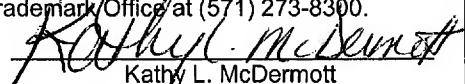
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September 13, 2007

Date

  
Kathy L. McDermott

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**RESPONSE TO THE FINAL OFFICE ACTION**

This paper is being filed in response to the Final Office Action mailed June 14, 2007 having a three-month reply due date of September 14, 2007. Reconsideration and reexamination are respectfully requested in light of the amendments and remarks below. While no fees should be required for entry of this response, if any fees or charges are required, the Commissioner is hereby authorized to charge them to Deposit Account 18-1167.

**Amendments to the Claims** begin on page 2 of this document.

**Remarks/Arguments** begin on page 5 of this document.

**AMENDMENTS TO THE CLAIMS**

Claims 1-20 (Cancelled).

21. (Currently Amended) A system for training firefighters to remain below a heat critical  
maintaining persons below a vertical boundary, the system comprising:

an emitter positioned at a fixed location and configured to establish a height limit at the vertical boundary, wherein the emitter emits a signal in a single direction and is rotatable through 360° forming a substantially continuous signal at the vertical boundary; and

a wearable sensor configured to emit an alarm signal responsive to its intrusion above the vertical boundary.

22. (Previously Presented) The system of claim 21, further comprising an adjustable vertical support to position the emitter at the vertical boundary.

23. (Previously Presented) The system of claim 21, further comprising redirecting elements spaced away from the emitter to receive a signal from the emitter and extend the height limit.

24. (Previously Presented) The system of claim 22, further comprising a second emitter configured to combine with the emitter to establish the height limit at the vertical boundary.

25. (Previously Presented) The system of claim 21, wherein the emitter establishes a 360° detection zone that forms the height limit.

26. (Previously Presented) The system of claim 21, wherein the emitter is an optical device that emits an optical beam.

27. (Previously Presented) The system of claim 21, wherein the sensor further includes a speaker to emit an audible sound responsive to intrusion above the height limit.

28. (Previously Presented) The system of claim 21, further comprising a remote control unit to remotely control a vertical position of the emitter to adjust the height limit.

29. (Currently Amended) A system for training firefighters to remain below a heat critical maintaining persons below a vertical boundary, the system comprising:

an emitter configured to establish a height limit, the emitter emitting a single signal;

a vertical support member adapted to position the emitter at a vertical position to establish the height limit at the vertical boundary; and

a wearable sensor configured to emit an alarm signal responsive to its intrusion above the vertical boundary;

wherein the emitter is adapted to turn 360° about the vertical support member to establish the vertical boundary around a 360° axis ~~an axis and mounted to the vertical support member~~.

30. (Cancelled)

31. (Previously Presented) The system of claim 29, further comprising an adjustment mechanism to selectively position the emitter at selected vertical positions.

32. (Previously Presented) The system of claim 31, wherein the adjustment mechanism is configured to selectively position the emitter at selected angular positions.

33. (Previously Presented) The system of claim 29, wherein the emitter further comprises a receiver that receives signals from a remote control unit to remotely adjust the position of the emitter on the vertical support member.

34. (Previously Presented) The system of claim 29, wherein the sensor further includes a speaker to emit an audible sound responsive to intrusion above the height limit.

35. (Currently Amended) A method for training firefighters to remain below a heat critical maintaining persons below a vertical boundary, the system comprising:

attaching an emitter that emits a signal in one direction to a vertical support member;

rotating the an emitter through 360° about the vertical support member with the signal forming a substantially continuous signal to define a height limit at the vertical boundary; and

providing a wearable sensor configured to emit an alarm signal responsive to its intrusion above the vertical boundary.

36. (Previously Presented) The method of 35, further comprising adjusting a vertical position of the height limit to different vertical boundaries.
37. (Previously Presented) The method of 35, wherein the step of defining the height limit at the vertical boundary comprises establishing the height limit at a constant level that is substantially parallel to a floor.
38. (Previously Presented) The method of 37, wherein the step of defining the height limit at the vertical boundary comprises establishing the height limit at an angle relative to the floor.
39. (Currently Amended) The method of 35, further comprising configuring the wearable sensor to emit an audible alarm signal responsive to its intrusion above the height limit.
40. (Previously Presented) The method of 35, further comprising configuring the wearable sensor to stop emitting the alarm signal when the sensor is positioned back below the height limit.

**REMARKS**

This response is in reply to the office action rejection mailed June 14, 2007. Claims 21-29 and 31-40 are pending in the application with each of the claims being rejected.

**The Applicant's attorney appreciates the Examiner's time during a telephone interview on August 21, 2007. The interview discussed the invention and the prior art of record. The Examiner stated during this interview that the office action incorrectly cited a secondary reference (stated as Gerber instead of Sampson). Therefore, the finality of this office action is being removed.**

U.S. Patent No. 4,934,937 (hereinafter Judd) discloses a device to train soldiers in the use of firearms under simulated combat conditions. The device includes a light source that projects a single light beam outward towards an area in which a soldier is positioned. The light source is mounted on a structure that pivots such that the light beam extends within a limited sector in which the soldier is located. As shown in Figure 2, the pivoting structure rotates through an arc of less than 360°. The rotational portion of the device allows the light source to oscillate, but not fully rotate. Further, Judd teaches a target in the form of a mannequin in close proximity to the light source. The light beam would be obstructed if the light source were to rotate past the mannequin. This would create a shielded area that extends outward from the target and allow a soldier to stand upright in the area without triggering an alarm.

U.S. Patent No. 6,579,097 (hereinafter Sampson) discloses a system for training military personnel. As illustrated in Figures 2 and 3, one aspect of the invention includes a weapon simulator secured to the ceiling of a room. This simulator includes five infrared LEDs that are spaced in a circumferential array to provide a substantially omni directional pattern of emissions. The infrared emissions from each of the LEDs are confined to limited sectors that correspond to five kill zones.

To differentiate the present invention from Judd and Sampson, the claims have been amended. Independent claims 21, 29, and 35 have been amended to now more accurately

describe that the invention is for training firefighters to remain below a heat critical vertical boundary. Neither Judd nor Sampson is directed to this type of training.

Claim 21 has further been amended to now include that the emitter emits a signal in a single direction and is rotatable through 360° thereby forming a substantially continuous signal at the vertical boundary. Judd does not disclose rotating the signal through 360° and forming an essentially continuous signal at the vertical boundary. Further, Sampson does not disclose any type of rotating signal. For at least these reasons, independent claim 21 and dependent claims 22-28 are patentable over these references.

Claim 29 has been amended to now include that the emitter emits a single signal. The emitter is adapted to turn about the vertical support member to establish the vertical boundary around a 360° axis. Neither Judd nor Sampson discloses a 360° rotation. For at least these reasons, independent claim 29 and dependent claims 31-34 are patentable over these references.

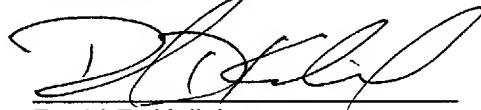
Claim 35 has been amended to now include the step of attaching the emitter that emits a signal in one direction to a vertical support member, and rotating the emitter through 360° about the vertical support member with the signal forming a substantially continuous signal at the vertical boundary. Neither Judd nor Sampson discloses rotating the emitter through 360° and forming a substantially continuous signal at the vertical boundary. For at least these reasons, independent claim 35 and dependent claims 36-40 are patentable over these references.

Claim 39 has been amended to now include that the wearable sensor emits an audible alarm signal responsive to its intrusion above the height limits.

In view of the above amendments and remarks, the Applicant submits that the application is in condition for allowance, and such action is respectfully requested.

Respectfully submitted,

COATS & BENNETT, P.L.L.C.



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David D. Kalish  
Registration No.: 42,706

1400 Crescent Green, Suite 300  
Cary, NC 27518  
Telephone: (919) 854-1844  
Facsimile: (919) 854-2084